particularly point out and distinctly claim the subject which applicant regards as the invention. The primary problem cited by the Office is the use of the terms "coprecipitate" and "copolymer" with regards to the films of inorganic species now claimed. Applicants respectfully remind the Office that as long as the terms are described within the specification, an applicant is permitted to be his own lexicographer. As such, since the terms are used to define such films, there is no indefiniteness problem in this situation. Furthermore, contrary to the Office's assertion that "polymeric" species are the only types of molecules which can be polymerized (and thus defined as copolymers), copolymers can be comprised of any molecules which exist as repeating units and are actually attached together. See the definition provided from Hackh's Chemical Dictionary where there is no limitation to organic species as the bases of polymeric compounds. There simply is no actual problem with indefiniteness or completeness with description to create a problem of understanding to the ordinarily skilled artisan or to question the breadth of subject matter now claimed being in the Applicants' possession at the time this application was filed. Reconsideration and withdrawal of these bases of rejection are thus earnestly solicited.

Furthermore, as it concerns the term "substantially goethite" in Claim 2, Applicants explain throughout the specification that production of any one specific type of iron oxide hydroxide is extremely difficult. This term encompasses the production of goethite in the clearest manner possible since other types will be formed within the film; however, it is intended that as much as possible be goethite within this claim. There is no indefiniteness problem as the ordinarily skilled artisan would understand the difficulty, if not impossibility, in producing all goethite. Reconsideration and withdrawal are respectfully requested.

The Office has also rejected Claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable over Ishino et al. in view of Watanabe et al.. It is Applicant's position that this rejection is untenable for a number of reasons. Ishino et al. are directed to the production of a ferrite textile composite comprised of a ferrite powder bound to the surface of a textile with a binder. There is no production of any precipitate or polymer of iron oxide hydroxides (not to mention coprecipitates or copolymers with aluminum oxide hydroxides) anywhere within this document. Applicants have shown that in order to produce such a coprecipitate and/or copolymer specific conditions and additives must be followed. Ishino et al. simply teach, again, a bound ferrite powder to a textile, period.

Watanabe et al. do not remedy this problem as they are concerned with improving pigment technology for cosmetics. The combination of this reference with Ishino et al. is simply improper and thus should be withdrawn. Why would one of ordinary skill in either the electrical conducting fabric art or the cosmetic pigment art look to any combination of these two references to improve technology in those areas? Quite simply, the ordinarily skilled artisan would not combine these two for any reason. Even so. there simply is no motivation to introduce an optional aluminum salt from Watanabe et al.'s solid substrate pigment production methods into Ishino et al. ferrite powder-containing electrically conductive textile composite. Watanabe et al.'s salts must be mixed in with other oxides or hydroxides and with the substrate for pigment desposition (glass, etc.). Thus, the product of Watanabe et al. which would provide any benefit to Ishino et al. (a solid substrate pigment) could only be introduced within Ishino et al.'s teachings by applying that pigment to the ferrite textile composite surface. There is no way that

the ferrite powder would then copolymerize with the aluminum salt (not to mention the required aluminum oxide hydroxide of the present claims) to form the currently claimed film product and textile coated therewith. There is no way this combination could teach Applicants' "invention as a whole" as is required of a proper *prima facie* obviousness rejection. Gillette Company v. S.C. Johnson & Son, Inc., 919 F.2d 720, 724, 16 USPQ2d 1923, 1927 (Fed. Cir. 1990); Jones v. Hardy, 727 F.2d 1524, 1529, 220 USPQ 221, 226 (Fed. Cir. 1984). The only manner in which the Office actually proffers this basis of rejection is the improper hindsight reconstruction of Applicants' own teachings. Reconsideration and withdrawal of this untenable rejection are thus earnestly solicited.

CONCLUSION

In view of all of the previous arguments, it is respectfully submitted that the pending claims are in condition for allowance and it is requested that this application be passed on to issue.

Respectfully submitted,

March 6, 20001

William S. Parks
Attorney for Applicants
Registration Number 37, 528
Telephone: (803) 503-1537

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to ~~Assistant~~ Commissioner of Patents, Washington, DC 20231, on March 6, 2001, along with a postcard receipt.

William S. Parks
Attorney for Applicants

polyester. A polymer having structural units linked by ester groupings; obtained by condensation of carboxylic acids with polyhydric alcohols.

polyether. A polymer containing the $—(CH_2—CHR—O—)_n$ linkage in the main chain or side chain.

polyethylene (U.S. usage). Polythene (U.K. usage); (strictly) polymethylene. A member of a series of straight-chain paraffin hydrocarbons of high molecular weight (18,000–20,000), made by polymerizing ethylene at very high pressures, e.g., 30,000 psi, under controlled conditions, m.110–115. Polyethylenes are thermoplastic and can be extruded or molded by injection or compression. World production (1965) 2.8 million tons. **p. glycol.** A polyglycol derived from ethylene glycol. *p.g.—400.* $H(OCH_2CH_2)_nOH$. A condensation product of ethylene oxide and water, where *n* is 8–10. Colorless, hygroscopic liquid, miscible with water; used in ointments (U.S.P.). *p.g.—4000.* Similar to p.g.—400, where *n* is 70–85. A wax, m.54; used in ointments (U.S.P.).

polygalic acid. Polygalin.

polygalin. $C_{32}H_{54}O_{18}$ = 726.6. Polygalic acid. An active principle from *Polygala senega*. Cf. *senega*.

polygamarin. A crystalline bitter principle from *Polygala amara* (Polygalaceae).

polygarskite. Attapulgite (U.S. usage). A hydrated, aluminum-magnesium silicate from Attapulgus, Decatur, Ga., and Ukraine; a drilling mud, fungicide base, and filler.

polygen. An element that forms 2 or more series of compounds; as, chlorine (chlorides, chlorites, and chlorates).

polygenetic. Producing more than one phenomenon. **p. dye.** A coloring material that gives different shades with different mordants. Cf. *monogenetic*.

polyglycol. A dihydroxy ether formed by dehydration of 2 or more glycol molecules, e.g., diethylene glycol.

polygon. A plane figure bounded by 3 or more sides.

Polygonaceae. The buckwheat family of herbs or woody plants; e.g.: *Rheum* species, rhubarb; *Rumex crispus*, rumex *Polygonum bistorta*, bistort.

polygonatum. Solomon's seal.

polygonin. $C_{21}H_{20}O_{10}$ = 432.15. A glucoside from *Polygonatum cuspidatum* (Lilaceae), Japan.

polygraph. A device to record arterial and venous pulse waves simultaneously; used as a lie detector.

polyhalite. $K_2SO_4 \cdot MgSO_4 \cdot 2CaSO_4 \cdot 2H_2O$. A native hydrated sulfate.

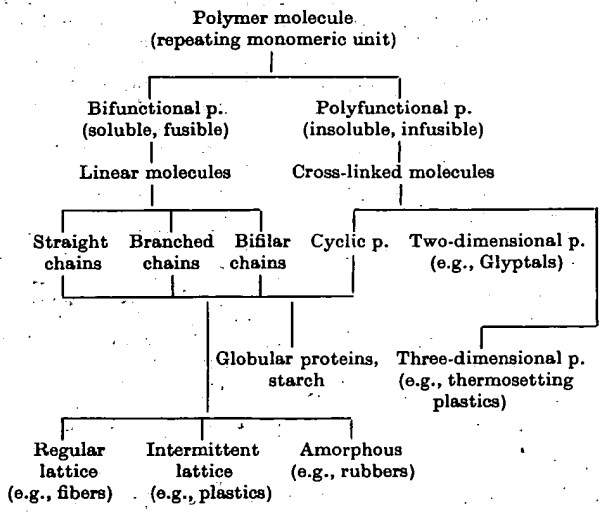
polyhydrate. A compound containing more than 2 molecules of water.

polyhydric. A compound containing more than 2 hydroxyl groups.

polyhydrone. $(H_2O)_x$. A polymer of hydrone, q.v.

polymer. Polymere, polymeride (obsolete). A member of a series of polymeric compounds. A substance composed of very large molecules, which consist essentially of recurring long-chain structural units, which distinguish polymers from other types of organic molecules, and confer on them tensile strength, deformability, elasticity, and hardness. Some 50 units (*monomers*), largely derived from coal and oil, are used to build up such polymers. Considerable modification of properties results on introducing a second type of monomer (B) into the main structure (monomer A), producing a *copolymer*, in which the units A and B are arranged completely at random. Alternatively, the A and B units may be arranged in order of long segments, e.g., ~A–A–A–A–B–B–B–B–B–A–A–A–A~ (*block p.*). There are also *branched* polymers, in which the B units branch from the A units; and *crosslinked* polymers, in which 2 A chains are joined by one or a block of B units. Polymeric molecules are classified below (after Pinner). Examples of *high* polymers are plastics, fibers, rubber, human tissue. Cf. *macromolecular chemistry, elastomer*.

alloy- A p. produced by the simultaneous polymerization of 2 substances. Cf. *silicone alloy*. **blocked-** See above. **branched-chain-** See above. **co-** A composite p. prepared by the polymerization of a mixture of 2 or more monomers, or of a monomer and p. of low molecular weight. Cf. *alloy p. block c.p.* A p. built of linearly linked polymeric units. *random c.p.* A p. having 2 or



more types of units combined in random succession in a linear chain structure. **crosslinked-** See above. **electron-exchange-** Redox p. A polymeric structure having several sites capable of accepting or donating electrons. Thus, modified cellulose with redox properties is used as a catalyst to remove oxygen from water to obtain anaerobic conditions. **graft-** A p. produced by grafting a monomer onto a straight-chain p. to produce a branched-chain p. Thus, a fluorocarbon p. is heated sufficiently to form free radicals on its surface and then dipped into a monomer, e.g., styrene, to produce a graft p. having a printable surface. **high-** A p. of high molecular weight, e.g., containing a large number of structural units. **high-trans-** A rubbery p. in which a large proportion of the C atoms are arranged in a definite pattern that repeats itself consistently in the chain; as, natural rubber. **homo-** A p. having only a single type of repeating unit. **inorganic-** Inorganic structures that form polymers on heating or by catalytic action; as, mica, silicones, inorganic rubber. **isostatic-** A crystalline p. made from α-olefins, in which the substituents in the asymmetric C atoms all have the same configuration relative to the main chain. **linear-** A p. in which the molecules are essentially in the form of long chains. **organized-** A p. having a regular macroscopic structure, without necessarily showing microcrystallinity. Cf. *polyallomers*. **orientated-** A p. film that has been stretched mechanically in 2 directions at right angles to improve its strength properties. **redox-** Electron-exchange p. **super-** A p. in which the polymerized molecules have an average molecular weight exceeding 10,000.

P.R. Trade name for a polyamide synthetic fiber.

polymeric. Related molecularly to an isomeric compound, but having a multiple of its molecular weight; as, acetylene and benzene. See *polymerism*. **p. dialdehyde.** See dialdehyde *starch*.

polymericular weight. The molecular weight of a polymerized molecule of an element.

polymeride. Polymer.

polymerisation. Polymerization.

polymerism. The property of certain organic compounds which have the same percentage composition, but different molecular weights, the heavier being multiples of the lighter. Thus, C_2H_2, C_4H_4, C_6H_6, C_8H_8 are polymeric compounds. See *polymerization*.

polymerization. Describing a reaction in which 2 or more molecules of the same substance combine to form a compound, from which the original substance may or may not be regenerated. Cf. *molecular association, hydrone*. **aromatic-** The formation of an aromatic compound from two or more molecules of an aliphatic compound; as, benzene from acetylene. **carbohydrate-** The formation of monosaccharides from formaldehyde: $6HCHO = C_6H_{12}O_6$. See *photosynthesis*. **co-** The structural arrangement, e.g., of rubber, in which 2 or more different monomers or types of group are present in alternate sequence in a chain. **condensed-** P. in which atomic displacement occurs. See *aldol condensation*. **degree of-** (1) The number of times a structural unit occurs in the molecule of a polymer. (2) D.P. A measure of the chain length and molecular weight of cellulose derivatives; determined from the viscosity of the cellulose in cuprammonium solution; e.g.: cellulose acetate 150–250, regenerated cellulose 100–250, sulfite wood pulp 230–310, ramie cellulose 1,000, cotton 750. **photo-** See *photopolymerization*. **true-** P. in which the atoms remain in similar relative positions; as, hexaphenylethane from triphenyl methyl.

polymers. Compounds having the same percentage composition, but containing different numbers of the same atoms.

polymeter. (1) A device to measure 2 or more different physical properties simultaneously. (2) A hygrometer, thermometer, and barometer mounted together.

polymethylene. See *cycloparaffins, polythene*. **p. glycols.** A polyglycol derived from methylene glycol, $CH_2(OH)_2$, or from its anhydride (formaldehyde); as, dimethylene glycol. **p. tetrasulfide.** Thiokol.

polymignite. A native lime-niobium oxide containing numerous metallic oxides.

polymixin. An antibacterial polypeptide from *Bacillus polymyxa*, having a unique specificity for gram-negative bacteria. It contains threonine and a branched C_9 fatty acid. Used medicinally as the sulfate (U.S.P., B.P.). **p.A.** Aerosporin. An antibiotic from *B. aerosporus*, similar to p. but containing also *d*-leucine.

polymorph. A substance that occurs in 2 or more different forms.

polymorphism. Ability to crystallize in 2 or more different systems. See *dimorphism, isomorphism*.

Polynosic. (From "polymer d'un glucose".) Trademark for viscose rayon fibers having a fibrillar structure.

polynucleated. Polycyclic.

polynucleotide. A complex nucleotide of high molecular weight, e.g., nucleic acids.

polyol. General name for a polyhydroxy compound of the sorbitol type.

polyoxy- Prefix indicating more than 3 oxygen atoms. **p. methylene.** $(CH_2O)_x$. A condensation product of formaldehyde. Cf. *paraformaldehyde*.

polyoxyl-40-stearate. Polyoxyethylene stearate. The monostearate of the condensation product; $H(OCH_2{\cdot}CH_2)_n{\cdot}O{\cdot}CO{\cdot}C_{17}H_{35}$, where n is 40. Waxy solid, m.40, soluble in water; used in ointments (U.S.P.).

polypeptides. Compounds of 2 or more amino acids, which contain one or more peptide groups, —CO·NH—. E.g.: dipeptides:
NH_2—R—CO·NH—R—COOH (as, carnosine);
tripeptides:
NH_2—R—CO·NH—R—CO·NH—R—COOH (as, glutatione); tetrapeptides:
NH_2—R—CO·NH—R—CO·NH—R—CO·NH—R—COOH (as, triglycylglycine).
The higher polypeptides resemble the peptones and proteins. A synthetic octodecapeptide (18 molecules of amino acids) has been prepared; theoretically 6,402,373,705,728,000 are possible.

polyphase. Having more than one phase; as, an alternating electric current.

polyphosphides. M_2P_n. Compounds of monovalent metals; as, K_2P_n.